

Course No. 1260

Big Data & AI Training Course

DATA SCIENCE & AI ANALYTICS
ARTIFICIAL INTELLIGENCE & APPLICATIONS

DURATION

5 Days

DELIVERY

Classroom

LOCATION

Madinah, Kingdom of Saudi Arabia

DATES

26 – 30 Oct 2026



Scheduled Event Details

CITY	Madinah, Kingdom of Saudi Arabia
DATE	26 – 30 Oct 2026
DELIVERY TYPE	Classroom
COURSE FEE	€4,800

Course Overview

The Big Data & AI Training Course is designed to equip professionals, executives, and decision-makers with the knowledge and practical skills required to harness the combined power of Big Data and Artificial Intelligence (AI) to drive innovation, improve operational efficiency, strengthen strategic decision-making, and accelerate digital transformation. As organizations generate massive volumes of structured and unstructured data from multiple sources, the ability to extract valuable insights using AI technologies has become a critical competitive advantage. This course provides a comprehensive framework for understanding how Big Data and AI work together to create intelligent, data-driven enterprises capable of responding rapidly to changing business environments.

Big Data and Artificial Intelligence are transforming industries by enabling organizations to process vast datasets, identify hidden patterns, predict future outcomes, automate decision-making, optimize operations, and deliver personalized customer experiences. Throughout the Big Data & AI Training Course, participants will explore how Machine Learning, Deep Learning, Generative AI, Predictive Analytics, Natural Language Processing (NLP), Data Engineering, Data Lakes, Cloud Analytics, Business Intelligence (BI), and Intelligent Automation support enterprise-wide analytics and digital innovation. The course demonstrates how organizations can transform raw data into strategic business intelligence that drives measurable performance improvements.

The course combines internationally recognized Big Data methodologies with practical AI applications relevant to government entities, ministries, financial institutions, oil and gas organizations, healthcare providers, telecommunications companies, manufacturing organizations, logistics providers, utilities, retail businesses, and multinational corporations. Participants will learn how to develop enterprise data strategies, manage large-scale datasets, implement AI-powered analytical models, improve business intelligence, strengthen data governance, and support predictive decision-making across multiple organizational functions. The program also addresses data governance, cybersecurity, privacy protection, cloud computing, regulatory compliance, ethical

AI, and responsible data management to ensure secure, scalable, and sustainable implementation.

Combining strategic concepts with hands-on implementation, this course enables executives, managers, analysts, engineers, and technology professionals to successfully implement Big Data and AI initiatives that deliver measurable business value. Through practical workshops, real-world case studies, business simulations, and implementation exercises, participants will develop the capabilities to build enterprise data ecosystems, improve analytical maturity, optimize business performance, accelerate innovation, strengthen organizational resilience, and establish a culture of intelligent decision-making powered by Big Data and Artificial Intelligence.

Objectives

- Analyze enterprise data environments to identify opportunities for Big Data and Artificial Intelligence implementation during the course.
- Develop a comprehensive understanding of Big Data architectures, AI technologies, and enterprise analytics frameworks.
- Evaluate structured, semi-structured, and unstructured data to support advanced business analytics and strategic decision-making.
- Apply Artificial Intelligence, Machine Learning, and Big Data technologies to solve complex organizational challenges.
- Design enterprise Big Data and AI strategies that improve operational efficiency, innovation, and business intelligence.
- Improve organizational forecasting, automation, customer insights, and resource optimization using AI-powered analytics.
- Strengthen governance, data quality, cybersecurity, privacy protection, regulatory compliance, cloud security, and ethical AI practices.
- Implement enterprise performance measurement using AI-powered KPIs, dashboards, predictive analytics, and business intelligence platforms.
- Assess organizational readiness for enterprise-scale Big Data and AI adoption.
- Align Big Data and AI initiatives with digital transformation strategies, operational excellence, innovation, and long-term organizational objectives.

Who Should Attend

The Big Data & AI Training Course is designed for executives, Chief Data Officers (CDOs), Chief Information Officers (CIOs), Chief Technology Officers (CTOs), digital transformation leaders, IT managers, data managers, analytics managers, operations managers, business managers, strategy managers, project managers, business analysts, data analysts, business intelligence professionals, and decision-makers responsible for enterprise data strategy and digital innovation.

The course is particularly valuable for professionals working in government entities, ministries, public sector organizations, central banks, commercial banks, financial institutions, insurance companies, oil and gas organizations, healthcare providers, manufacturing companies, telecommunications providers, logistics organizations, utilities, educational institutions, smart city initiatives, and multinational corporations implementing enterprise AI and Big Data transformation programs.

It is also suitable for data scientists, data engineers, AI specialists, cloud architects, software engineers, database administrators, ERP specialists, BI developers, cybersecurity professionals, innovation managers, consultants, researchers, digital transformation teams, and professionals seeking to strengthen their expertise in enterprise Big Data and Artificial Intelligence technologies.

Learning Outcomes

- By the end of the Big Data & AI Training Course, participants will be able to:
- Explain the strategic role of Big Data and Artificial Intelligence in enterprise digital transformation.
- Analyze enterprise data ecosystems and identify opportunities for AI-driven business value creation.
- Apply Machine Learning, Deep Learning, Generative AI, Predictive Analytics, Natural Language Processing, and Big Data technologies to business scenarios.
- Design scalable Big Data architectures that support enterprise analytics and intelligent decision-making.
- Integrate AI technologies with Business Intelligence platforms, cloud environments, enterprise data warehouses, and data lakes.
- Utilize predictive analytics and intelligent automation to improve operational efficiency and strategic planning.

- Apply best practices for data governance, cybersecurity, privacy protection, cloud security, regulatory compliance, and ethical AI.
- Measure enterprise performance using AI-powered dashboards, KPIs, predictive models, and executive analytics.
- Develop implementation roadmaps for enterprise Big Data and AI transformation initiatives.
- Lead enterprise AI and Big Data transformation programs that strengthen innovation, business resilience, operational excellence, and sustainable organizational growth.

Course Outline

DAY 01

Foundations of Big Data and Artificial Intelligence

- Introduction to Big Data and Artificial Intelligence
- Enterprise digital transformation and data-driven organizations
- Big Data characteristics, architectures, and ecosystems
- AI technologies and enterprise applications

PRACTICAL WORKSHOP

Identifying Big Data and AI opportunities across organizational functions

DAY 02

Big Data Management and AI Technologies

- Enterprise data collection, storage, and processing
- Data lakes, data warehouses, and cloud-based analytics
- Data engineering fundamentals and data preparation
- Machine Learning and Generative AI fundamentals

PRACTICAL WORKSHOP

Preparing enterprise data for AI-driven analytics

DAY 03**AI-Powered Big Data Analytics**

- Predictive analytics and advanced business intelligence
- Natural Language Processing and text analytics
- Intelligent automation and AI-driven decision support
- Integrating Big Data platforms with AI and Business Intelligence solutions

PRACTICAL WORKSHOP

Developing AI-powered analytical models for enterprise use cases

DAY 04**Governance, Security, and Enterprise Performance**

- Enterprise data governance and Big Data governance frameworks
- Cybersecurity, privacy protection, cloud security, and regulatory compliance
- Ethical AI, responsible data management, and AI governance
- Enterprise performance measurement using KPIs, executive dashboards, and predictive analytics

PRACTICAL WORKSHOP

Designing governance frameworks and enterprise performance dashboards

DAY 05**Enterprise Big Data & AI Strategy**

- Planning enterprise Big Data and AI transformation initiatives
- Building a data-driven organizational culture
- Future trends in Big Data, Artificial Intelligence, intelligent automation, and advanced analytics
- Measuring business value and return on investment from enterprise AI initiatives

DAY 05 — CONTINUED

FINAL WORKSHOP

Developing a comprehensive Big Data & AI implementation roadmap, including enterprise data strategy, AI governance framework, data governance model, cloud adoption strategy, KPI architecture, executive dashboard framework, stakeholder engagement plan, implementation roadmap, and organizational action plan to strengthen business intelligence, accelerate digital transformation, improve operational performance, enhance innovation, and achieve sustainable organizational excellence.

Register or Request More Information

Course page: <https://quest-training.com/courses/big-data-ai-training-course>

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